

REMARKS

Claims 1-19 and 24-29 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

Section 112, First Paragraph, Rejection:

The Office Action rejected claims 1-19 and 24-29 under 35 U.S.C. § 112, first paragraph, for failing to comply with the written description requirement. Applicant respectfully traverses this rejection for at least the following reasons.

Noting that independent claims 1 and 9 each recite a *Java Data Object (JDO) persistence manager configured to detect changes to application state data within the server container*, the Examiner asserts that the specification does not explicitly recite this functionality. However, paragraph [0001] recites that the invention relates to the persistence of application state in a distributed container environment. Paragraph [0008] recites “each server of the cluster may include a server container providing services for one or more applications along with a Java Data Object (JDO) persistence manager” and “the JDO persistence manager may be able to detect changes to the state of an application.” Paragraph [0026] recites that some application components may run within a component container within an application server (see Fig. 1), that the container and/or application server may automatically provide standard services such as state management to application components running within a component container, and that the state management may include the persisting of application state data. Paragraph [0027] recites that application server functionality may be organized around the concept of containers, which provide groupings of related functions. Since the applications run within the application server container, changes to application state are within the application server container. Thus, the phraseology used in Applicant’s independent claims is clearly supported in the specification. Applicant respectfully reminds the Examiner that it is well settled law that the claimed invention does not have to be described in *ipsis verbis* in order to satisfy the description requirement of §112. *Jacobs v.*

Lawson, 214 USPQ 907, 910 (B.P.A.I. 1982). “The subject matter of the claim need not be described literally in order for the disclosure to satisfy the description requirement.” *M.P.E.P.* 2163.02. As shown above, Applicant’s claims are clearly in complete compliance with the requirements of 35 U.S.C. § 112, first paragraph. Withdrawal of this rejection is respectfully requested.

Section 102(e) Rejection:

The Office Action rejected claims 1-6, 9-19 and 24-29 under 35 U.S.C. § 102(e) as being anticipated by Mullins (U.S. Patent 7,103,600). Applicant respectfully traverses these rejections for at least the following reasons.

In regard to claim 1, contrary to the Examiner’s assertion, Mullins does not teach a server cluster comprising a plurality of server nodes, as recited in claim 1. The Examiner refers to Mullins, column 1, line 67 to column 2, line 3 as teaching this aspect of Applicant’s claim. However, the cited portion of Mullins belongs to the “Background of the Invention” section, which describes systems for accessing data stores from object oriented languages [column 1, lines 30-31]. The cited lines recount *problems with persisting data to such data stores*, noting that the data object model “may be distributed over multiple physical computer machine locations or even distributed over multiple Internet website locations that may be independent of the data stores.” There is no mention whatsoever of a server cluster including several server nodes.

Further in regard to claim 1, contrary to the Examiner’s assertion, Mullins does not teach a server container within a server node of a multi-node server cluster, and one or more applications configured to execute within that server container, as recited in claim 1. Examiner refers to Mullins, column 16, lines 49-53 as teaching this aspect of Applicant’s claim. However, the cited portion of Mullins refers to a *programming module of the CocoNavigator API* [see column 15, lines 13-16 and column 18, lines 37-45] which can be configured *to operate as a tool to create, access, support and correctly manage a CDOG* (complex data object graph) navigation model in a server environment,

and to persist any changes to the CDOG navigation model when the navigation model is distributed across a local network or when the navigation model involves a distributed network (e.g., a navigation model distributed across internet connections). The programming modules of the *CocoNavigator API* are programming tools providing support to **an object computer language programmer** for manipulating complex data object graphs [column 18, lines 37-45; column 12, lines 19-38]. They are not applications configured to execute within a server container of a server node in a multi-node server cluster.

Further in regard to claim 1, contrary to the Examiner's assertion, Mullins does not teach a Java Data Object (JDO) persistence manager configured to detect changes to application state data within the server container and to persist the application state data, as recited in claim 1. Examiner refers to Mullins, column 8, lines 8-12, as teaching this aspect of Applicant's claim. However, the cited portion of Mullins describes a programming object which includes programming code for communicating with a persistence manager API (application programming interface) to persist the object, its data, and/or links to other objects. Mullins makes no mention of a persistence manager detecting changes to application state data within a server container for an application executing within that server container, or to persisting that application state data.

Further in regard to claim 1, contrary to the Examiner's assertion, Mullins does not teach a persistent data store coupled to the cluster, configured to store application state data of the applications executing within each respective server container, and configured to make the application state data accessible to each of the plurality of server nodes of the cluster, as recited in claim 1. Examiner refers to Mullins, column 4, lines 8-18, as teaching this aspect of Applicant's claim. However, the cited portion of Mullins simply defines the term "data object," in the context of the document of Mullins, as an object which holds data, "and is likely to have its contents stored in a persistent data source of a computer system." Mullins makes no mention of a persistent data store coupled to a cluster, nor of storing application state data of the applications executing

within each respective server container, and making the application state data accessible to each of the cluster server nodes.

Further in regard to claim 1, contrary to the Examiner's assertion, Mullins does not teach wherein in response to detecting a change in application state data within the server container, the JDO persistence manager is configured to persist only a changed portion of the application state data within the respective server container to the persistent data store, as recited in claim 1. Examiner refers to Mullins, column 7, lines 24-34, and column 35, lines 33-35, as teaching this aspect of Applicant's claim. However, the cited portion of Mullins at column 7, lines 24-34 teaches providing a computer software component having the ability to persist all or a portion of a CDOG (complex data object graph) and to persist any changes to the repository definition for the CDOG model. Mullins does not teach a response to detecting a change in application state data within a server container, much less persisting only a changed portion of the application state data within the respective server container to the persistent data store. The cited portion of Mullins at column 35, lines 33-35, simply recites that Transaction objects persist only data object attributes that have changed. There is no indication, here or elsewhere in Mullins, of a response to detecting a change in application state data within a server container, much less persisting only a changed portion of the application state data within the respective server container to the persistent data store.

Accordingly, Mullins cannot be said to anticipate Applicant's claim 1. Similarly, Mullins cannot be said to anticipate Applicant's claim 9.

In regard to claim 14, Mullins does not teach a Java Data Object (JDO) persistence manager detecting an access to application state data within a server, and in response to the detecting, determining whether the access alters the application state, as recited in claim 1. The Examiner refers to Mullins, column 7, lines 14-23, column 8, lines 8-12, and column 10 lines 5-7, as teaching this aspect of Applicant's claim. Mullins teaches a "user access interface and a set of programming routines designed for creating or maintaining transparent persistence when a user is creating, maintaining,

accessing and navigating complex data objects as a CDOG model [column 10, lines 51-54, emphasis added].” The cited portion of Mullins at column 7, lines 14-23 describes a computer software component which can access an object model repository in computer memory or in another temporary computer storage device, and persist the creating, maintaining, accessing, navigating, updating or deleting of complex data objects as a CDOG model. The cited portion of Mullins at column 8, lines 8-12 describes a programming object which includes programming code for communicating with a persistence manager API (application programming interface) to persist the object, its data, and/or links to other objects.

The cited portion of Mullins at column 10 lines 5-7 is part of a description of Fig. 3, a **programming flow chart** representing the system for *creating, displaying, updating, and persisting the data of a complex data object (CDO) which is part of a CDO graph*. The cited portion of Mullins refers to the first programming module of Fig. 3 and its **displayable presentation page** containing **embedded object programming code**. The **displayable presentation page** is presented to a user, and can *display the data of a data object, or provide a user interface for creating or updating the data for that data object*. The cited portion of Mullins describes the **embedded programming code** of the **displayable presentation page**, which includes a **programming reference link to an associated programming object** which is **connected to another programming module** *containing logic for detecting changes to object data or to a graph associated with the object*.

The cited portions of Mullins teach a set of programming routines for creating or maintaining transparent persistence when a user is creating, maintaining, accessing and navigating complex data objects as a CDOG model via a displayable presentation page. Neither singly nor collectively do the cited portions of Mullins teach a **persistence manager detecting an access to application state data within a server**, and **in response to the detecting, determining whether the access alters the application state**, as recited in claim 1.

Further in regard to claim 14, Mullins does not teach in response to determining that the access alters the **application state within the server**, persisting only the elements of the application state that are changed by the access to a persistent store that makes the application state accessible to the server and to one or more other servers. Examiner refers to Mullins, column 7, lines 24-34, and column 35, lines 33-35, as teaching this aspect of Applicant's claim. However, the cited portion of Mullins at column 7, lines 24-34 teaches providing a computer software component able to persist all or a portion of a CDOG (complex data object graph) and to persist any changes to the repository definition for the CDOG model. Mullins does not teach *in response to determining that the access alters the application state within the server, persisting only the elements of the application state that are changed by the access* to a persistent store *that makes the **application state** accessible to the server and to one or more other servers.* The cited portion of Mullins at column 35, lines 33-35, simply recites that Transaction objects persist only data object attributes that have changed. There is no indication, here or elsewhere in Mullins, of *in response to determining that the access alters the application state within the server, persisting only the elements of the application state that are changed by the access* to a persistent store *that makes the application state accessible to the server and to one or more other servers.*

Accordingly, Mullins cannot be said to anticipate Applicant's claim 14. Similarly, Mullins cannot be said to anticipate Applicant's claim 24.

Withdrawal of the rejections is respectfully requested.

Applicant also asserts that the rejection of numerous ones of the dependent claims is further unsupported by the cited art. However, since the rejections have been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time.

Section 103(a) Rejection:

The Office Action rejected claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Mullins in view of Jacobs et al. (U.S. Patent 6,385,643) (hereinafter “Jacobs”). Applicant traverses this rejection for at least the reasons given above in regard to claim 1. Applicant also asserts that this is further unsupported by the cited art. However, since the rejections have been shown to be unsupported for the independent claim, a further discussion of the dependent claims is not necessary at this time.

CONCLUSION

Applicant submits the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-54100/RCK.

Respectfully submitted,

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Date: July 9, 2008